



SUBJECT: **Guidelines for Amending a Radiation Dose Report**

I. Introduction

This guide for Texas Natural Resource Conservation Commission (TNRCC) licensees describes items to be considered when assessing or amending a radiation dose report for an employee who loses or damages assigned personnel monitoring equipment or who receives an invalid radiation dose report.

The requirements for licensees to monitor occupational exposure to radiation and to supply and require the use of individual monitoring devices (personnel monitoring equipment) are given in 30 Texas Administrative Code (TAC) Section 336.1(4), which adopts by reference Section 21.502 of the Texas Regulations for Control of Radiation (TRCR) of the Texas Department of Health. In addition, 30 TAC Section 336.1(4), which also adopts by reference TRCR Section 21.1107, gives the requirements for licensees to maintain records showing the radiation doses of all individuals for whom personnel monitoring is required. Lost or damaged personnel monitoring equipment or an invalid radiation dose report result in incomplete radiation exposure data. In order to maintain a complete radiation exposure history, the licensee must assess a radiation dose to each employee who loses such data.

II. Definitions

- A. "Lost personnel monitoring equipment" means personnel monitoring equipment that is not returned to the supplier for processing within the time period considered necessary by the personnel monitoring supplier to obtain a valid reading.
- B. "Damaged personnel monitoring equipment" means personnel monitoring equipment that is adversely affected by moisture, light, heat, or other factors resulting in lost exposure data.

C. "Invalid radiation dose report" means a report of a radiation dose reading that the licensee believes to be erroneous.

III. Lost or Damaged Personnel Monitoring Equipment

After determining that an employee's personnel monitoring equipment has been lost or damaged, the licensee must conduct an investigation of the occurrence and assess a dose for the period of lost data. The report should address the items listed on the attached "Radiation Dose Assessment Report" form. Calculation of the radiation dose should be made using a method acceptable to the Executive Director. Suggested calculation methods are described in Section V of this guide. The results of the investigation and the assessed dose may be recorded on the "Radiation Dose Assessment Report" form.

In accordance with 30 TAC Section 336.1(4), TRCR Section 21.1107, the licensee must maintain an "Occupational Exposure Record for a Monitoring Period" [see TRC Form 21-3 in 30 TAC Section 336.1(4), TRCR Part 21] or the equivalent for the employee. A record of the investigation results and the assessed dose, recorded on the "Radiation Dose Assessment Report" form or equivalent documentation, should be kept with the employee's exposure record. These records should then be kept for inspection by the Executive Director. For radiation dose assessments made due to lost or damaged personnel monitoring equipment, the licensee need not notify the Executive Director unless the assessed dose causes the exposure for the period to exceed levels which require notification to the Executive Director as indicated in 30 TAC Section 336.1(4), TRCR Sections 21.1202 and 21.1203.

Any assessed dose must be added to the employee's permanent lifetime dose record upon termination of employment or association in order to provide a complete exposure record. If the licensee uses personnel monitoring records provided by a personnel monitoring supplier as the equivalent of TRC Form 21-3, any assessed dose must be added to the employee's lifetime dose by the personnel monitoring supplier. The personnel monitoring supplier may amend a personnel monitoring record without prior approval by the Executive Director only if the amendment is an addition of an assessed dose. Prior written approval of the Executive Director must be obtained before any amendment deleting or reducing a recorded dose is made to a personnel monitoring record.

IV. Invalid Radiation Dose Reports

The licensee is required to notify the Executive Director of any radiation dose in excess of limits set forth in 30 TAC Section 336.1(4), TRCR Sections 21.1202 and 21.1203, even if the dose is considered invalid. In addition, if the licensee considers any individual's radiation dose report to be invalid and the reading is below the limits, the licensee must obtain prior written approval of the Executive Director before any amendment deleting or reducing a recorded dose is made to a personnel monitoring record.

The notification to the Executive Director should be made in accordance with 30 TAC Section 336.1(4), TRCR Sections 21.1202 and 21.1203, and should include the items listed on the "Radiation Dose Assessment Report" form and the following applicable information:

- A. The reported radiation dose and the reporting period during which it allegedly occurred;
- B. Results of consultations with the personnel monitoring supplier regarding reevaluation of the personnel monitoring equipment;
- C. Results of any medical tests performed as a result of the reported radiation exposure;
- D. The employee's workload involving radioactive material during the time period when the invalid radiation dose was reported;
- E. Any unusual occurrence involving the employee that may have affected the radiation dose reading; and
- F. Corrective actions taken by the licensee to prevent the recurrence of a similar event.

The notification to the Executive Director may be made using the "Radiation Dose Assessment Report" form, provided the information listed above is included in Item 12 of the form. After the Executive Director has provided written approval, the licensee may request that the personnel monitoring supplier amend the radiation dose report to reflect the assessed radiation dose.

V. Acceptable Calculation Methods

The dose calculation methods described in this section are acceptable to the Executive Director. Alternate calculation methods will be reviewed by the Executive Director and approval will be granted on a case-by-case basis. The licensee may calculate a radiation dose by:

- A. Reviewing pocket dosimetry reports of the employee during the reporting period in question if there is a close correlation between past pocket dosimetry reports and past film badge reports;
- B. Calculating exposure to the employee based on occupancy and employee workload;
- C. Reviewing radiation dose reports and pocket dosimetry reports of other individuals who worked with the employee during the reporting period in question; or
- D. Obtaining an average dose by using the employee's radiation dose reports for at least the previous six months provided that the employee's duties and workload were not significantly different from those during the six-month period.

VI. Completing The "Radiation Dose Assessment Report" Form

Listed below by item number are instructions and additional information directly pertinent to completing this form.

Item 1 - Give the employee's full name, with the last name first.

Item 2 - Include the month, day, and year of birth.

Item 3 - Self-explanatory.

Item 4 - Self-explanatory.

Item 5 - Self-explanatory.

Item 6 - For a lost or damaged badge, enter the word "lost" or "damaged," as appropriate. For an invalid dose reading, enter the dose originally recorded and indicate whether it was a dose to the whole body, skin, lens of the eye, or extremities.

Item 7 - Indicate the dates of the monitoring period during which the personnel monitoring equipment was lost or damaged, or during which the invalid dose was recorded.

Item 8 - Indicate the name of the company which supplies your personnel monitoring service.

Item 9 - Indicate the identification number of the personnel monitoring equipment used by the employee.

Item 10 - Indicate the type of personnel monitoring equipment used. If "other" is indicated, specify what type of personnel monitoring is used.

Item 11 - Indicate the type of radiation measured by the personnel monitoring equipment.

Item 12 - The results of the investigation of the lost or damaged badge or the erroneous dose should be recorded in this item. The explanation should be in narrative form. Also, indicate the corrective actions which were taken, if any. Additional sheets may be attached if needed.

Item 13 - Indicate the assessed dose and explain the calculation method used to determine it. Additional sheets may be attached if needed.

VII. For More Information

This guidance is issued to assist TNRCC licensees and applicants in implementing and complying with specific parts of the radiation rules (30 TAC Chapter 336). Methods other than those presented in this guide may be proposed by the licensee or applicant for approval. For assistance with any questions, please contact the UIC, Uranium, and Radioactive Waste Section, MC-131, Texas Natural Resource Conservation Commission, P.O. Box 13087, Austin, Texas 78711-3087. telephone number (512) 239-6065.